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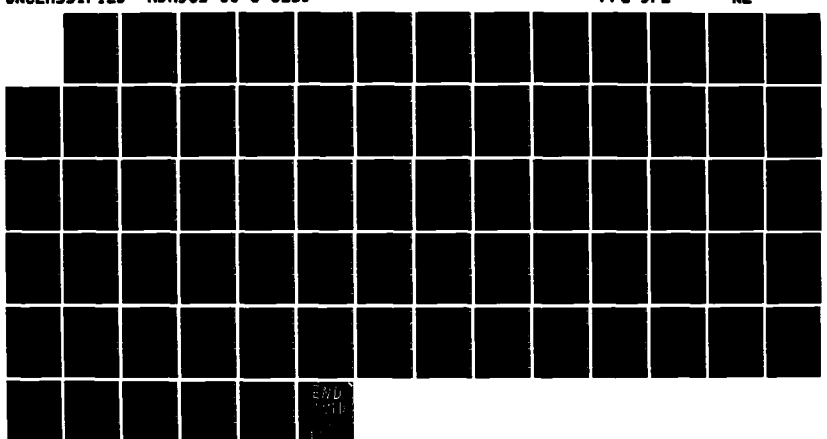

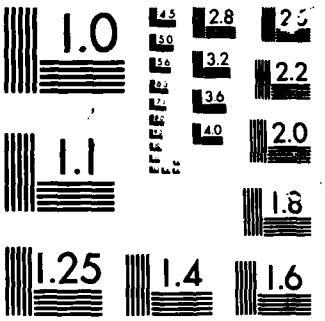

MICROCOPY CHART

AD-A166 655

MICROCOMPUTER-BASED LOCAL AUTOMATION MODEL: TEST PLAN

31 January 1986

Richard W. Hartt
Dennis J. O'Connor

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Local Automation Model; Libraries; Information Systems; Integrated Library Systems; Intelligent Gateway Processor; Test Plan ; Test and Evaluation

19. ABSTRACT (*Continue on reverse if necessary and identify by block number*)

The document provides a comprehensive test plan to determine whether the prototype system meets the functions and capabilities required for the microcomputer-based Local Automation Model (MicroLAM). The procedures and methods for testing the prototype system are described. The evaluation criteria used in assessing system performance is provided. The test plan will assist in the development of the functional specifications for use in acquiring the production system. Evaluation forms used by test participants for each major system function are provided in the appendices.

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MICROCOMPUTER-BASED LOCAL AUTOMATION MODEL: TEST PLAN

31 January 1986

Richard W. Hartt
Dennis J. O'Connor

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TABLE OF CONTENTS

		PAGE
SECTION		
1.	GENERAL	1- 1
	1.1 Purpose	1- 1
	1.2 Project Description and References	1- 1
	1.3 Terms and Abbreviations	1- 2
2.	TEST BACKGROUND AND PREPARATION	2- 1
	2.1 Background	2- 1
	2.2 Pretest Activity	2- 1
	2.3 Test Schedule	2- 2
	2.4 Personnel	2- 2
3.	TEST SPECIFICATION AND DESCRIPTION	3- 1
	3.1 Test Specification	3- 1
	3.2 Test Description	3- 2
	3.3 Test Procedures	3- 3
APPENDIX		
A.	TEST PLAN CHECKLIST: REFERENCE	
B.	TEST PLAN CHECKLIST: CATALOGING	
C.	TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL	
D.	TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT	
E.	TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL	
F.	TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY	
G.	TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION	
H.	TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES	

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SECTION 1. GENERAL

1.1 Purpose.

This Test Plan for the microcomputer-based Local Automation Model (microLAM) is written to:

- Establish a comprehensive test plan to determine whether the prototype system provides the functions and capabilities required for the microLAM.
- Describe the procedures and methods for testing the prototype system.
- Provide a record of the evaluation criteria used for assessing prototype system performance.
- Assist in the development of microLAM functional specifications for use in acquiring the microLAM production system.

1.2 Project Description and References.

The microLAM encompasses a system design, development, and evaluation project sponsored by the Defense Technical Information Center (DTIC) located at Cameron Station, Alexandria, Virginia. The requirements for the system are documented in Microcomputer-Based Local Automation Model: Functional Description, Logistics Management Institute, October 1985.

The prototype system – planned for implementation at the U.S. Army Training and Doctrine Command (TRADOC) Technical Library at Fort Monroe, Virginia – will provide the opportunity to demonstrate and evaluate an automated library system with special features for bibliographic information sharing. The system will support conventional collection-handling capabilities such as original cataloging and citation retrieval, and in addition, it will facilitate information sharing between Department of Defense (DoD) technical libraries and DTIC by incorporating intelligent gateway processing capabilities.

Gateway capabilities required for the system include automatic searching of both the local technical library catalog and the DTIC Technical Reports (TR) data base using a single search language and format, downloading of information from the TR data base to the local system, and machine-aided translation of locally created catalog citations into a format acceptable for entry in the

TR data base. Thus, with one system and one set of commands, a technical library can maintain and expand a catalog tailored to its needs, access the information contained in the TR data base, and contribute directly to the timely dissemination of scientific and technical information via direct cataloging in the TR data base.

The prototype and production systems will be implemented using commercially available library software. The gateway features available in the prototype system will be provided through adaptation of a subset of the Integrated Information System (IIS) developed by the Technology Information System group at Lawrence Livermore National Laboratory. The commercial library package chosen for the prototype system is the Unicorn Collection Management System developed by Sirsi Corporation.

1.3 Terms and Abbreviations.

The following terms, acronyms, and abbreviations are used in this document:

- DROLS: Defense RDT&E On-Line System
- DTIC: Defense Technical Information Center
- IIS: Integrated Information System – an intelligent gateway developed and supported by the Technology Information System group at Lawrence Livermore National Laboratory
- LAM: Local Automation Model – a project sponsored by the Defense Technical Information System for demonstrating, evaluating, and acquiring an integrated library system encompassing local collection management, and access to external bibliographic resources
- LLNL: Lawrence Livermore National Laboratory – a Department of Energy-funded, contractor-operated research and development laboratory located in Livermore, California
- LMI: Logistics Management Institute – the microLAM system developer
- TIS: Technology Information System – used to describe both the work on advanced information-handling technology and the organizational element performing this work at LLNL
- TRADOC: U.S. Army Training and Doctrine Command, the command at which the prototype system will be implemented
- TRALINET: TRADOC Library Network, comprised of TRADOC technical libraries and managed by TRADOC personnel at Ft. Monroe, Virginia
- TR Data Base: The Technical Reports data base operated and maintained by DTIC containing more than 1 million citations to reports published or sponsored by DoD.

SECTION 2. TEST BACKGROUND AND PREPARATION

2.1 Background.

The application software for the microLAM consists of two major components: (1) a commercial library software package supporting local collection cataloging, retrieval, and circulation management and control and (2) an intelligent gateway providing access to the DTIC TR data base for cataloging and retrieval. The gateway also provides post-processing capabilities such as transferring TR database citations to the local system, translating and merging citations from both sources into a common format, eliminating duplicate or unwanted citations, and citation sorting.

The test procedures described in this document are designed for testing the prototype system. The objective of the test is to determine whether the LAM concept, i.e. the interoperability of library software with gateway software to provide simultaneous access to two or more heterogenous data bases, is feasible. The results of the test will be used in the development of functional specifications for acquisition of the microLAM production system.

After the Unicorn package has been installed at the prototype site, integration of Unicorn with the gateway software will proceed. Requirements for the integration are specified in Local Automation Model: Program Specification – User Access for Cataloging and Retrieval, Logistics Management Institute, September 1985. When the integration is complete, the fully integrated system will be installed.

2.2 Pretest Activity.

In preparation for the testing, two activities must be completed: software and hardware acquisition and installation, and catalog development.

Software and Hardware Acquisition and Installation. The system developer (LMI) has made arrangements with Sirsi Corporation and Lawrence Livermore National Laboratory for acquiring the software and hardware required for the prototype system. The hardware and the commercial software package will be installed at the TRADOC Technical Library at Ft. Monroe in January 1986.

The integrated software (commercial package merged with the gateway software) will be installed in the spring of 1986.

Catalog Development. A catalog of TRADOC library holdings will be developed from existing bibliographic citations: technical report citations from the DTIC TR data base and book citations from OCLC, Inc. Both sets of citations will be copied to magnetic tape, reformatted for use in the microLAM catalog, and loaded into the prototype system by TRADOC Library Network (TRALINET) Center and Sirsi personnel.

2.3 Test Schedule.

Testing will take place at two locations: the TRADOC Technical Library and the TRALINET Center, both at Ft. Monroe, Virginia. The system configuration includes two workstations in the library and one in the TRALINET Center for system use; each of the workstations can be used for normal library operations as well as for system testing. The system test can commence when the test participants have been trained and gained experience on the system. The system test will end no later than May 15, 1986.

2.4 Personnel.

As primary users of the system, the TRADOC Technical Library staff and TRALINET Center staff are the key test participants. TRADOC is encouraged to provide as many staff members as possible from the two organizations to participate in the test.

Staff members from DTIC are invited to provide assessments of software performance, functionality, and technical suitability.

Test participants may perform their evaluations independently of each other, consistent with existing assignments and job responsibilities.

Staff members from LMI will be responsible for compiling and summarizing the results and evaluating selected features. Test results will be coordinated with TRADOC library and TRALINET staffs, DTIC participants, and project members from Lawrence Livermore National Laboratory.

Recommendations covering organizational responsibilities for testing each of the system functions included in the checklists are discussed in Section 3.2, "Test Description."

SECTION 3. TEST SPECIFICATION AND DESCRIPTION

3.1 Test Specification.

3.1.1 Requirements.

Functions and processes required for the microLAM system have been documented in the microLAM Functional Description cited earlier. These requirements are reflected in the checklists contained in Appendices A through H, which serve as evaluation forms to be used by the test participants as described in Section 3.2. Separate checklists are provided for each major system function as follows:

- Reference – Appendix A
- Cataloging – Appendix B
- Circulation Management and Control – Appendix C
- Reports and Other Printed Output – Appendix D
- Security and Access Control – Appendix E
- Reliability and Maintainability – Appendix F
- Ease of Use and Modification – Appendix G
- Hardware and Software Features – Appendix H.

3.1.2 System Functions.

The prototype testing will focus on verifying the availability of functions supporting cataloging, retrieval, and circulation management and control. Although the production system may offer additional functions, only those three functions were identified as critical by potential system users.

More than 300 features are included for evaluation, and while some may not appear essential for prototype system implementation, they have all been included to make the test as comprehensive and complete as possible. To aid test participants, the checklists have been annotated with an "*" in the left-hand margin for essential or critical features.

Some features marked with an "*" may appear different from or contradict features not marked as critical. Such apparent contradictions occur because the checklists allow for differences in implementation methods. Where alternative implementation methods are most likely to be used to meet requirements for critical features, the alternative methods are listed for evaluation.

3.2 Test Description.

Each of the checklists in Appendices A through H is comprised of software features grouped into categories. Thus, a three-tiered hierarchy has been created: functions comprised of categories comprised of features. The Unicorn package will be tested by feature; that is, test participants will conduct the test by determining whether the package offers the feature on the checklist. Examples of features are: "System provides on-line updating of catalog," "System provides global search and replace," "System provides record locking for update."

The features have been constructed to be answered in a "yes/no" format with five scoring levels designed to differentiate among the performance levels. This scoring will allow test participants to *indicate not only that a feature is or is not* available but also that a feature is available with limitations. The scale to be used by test participants in rating each feature is as follows:

- 1 – No, the system does not offer the feature
- 2 – Yes, the system offers the feature with severe limitations
- 3 – Yes, the system offers the feature with moderate limitations
- 4 – Yes, the system offers the feature with minor limitations
- 5 – Yes, the system offers the feature without limitations.

To complete the checklists, a test participant exercises the features listed, checks the appropriate score column (1, 2, 3, 4, or 5), and adds any comments in the column provided on the checklist.

To minimize the time required by any participant, we recommend that primary responsibility for completing the checklists be assigned as follows:

- TRADOC Technical Library Staff, Ft. Monroe
  - Appendix A – Reference

- Appendix B – Cataloging
- Appendix C – Circulation Management and Control
- Appendix D – Reports and Other Printed Output

- TRALINET Staff, Ft. Monroe
  - Appendix E – Security and Access Control
  - Appendix F – Reliability and Maintainability
  - Appendix H – Hardware and Software Features

- Shared Responsibility (Library Staff and TRALINET Staff)
  - Appendix G – Ease of Use and Modification.

The project team from LMI will test selected system features, coordinate the test activity, and compile the test results. Members of the DTIC staff are invited to participate in the testing.

While responsibilities for completing each of the checklists are assigned to specific test participants, all participants are invited to prepare and submit evaluations on any or all of the eight functions.

3.3 Test Procedures.

The test participants will initiate and run all tests at any time from the installation of the system until all testing is completed (not later than May 15, 1986). Neither the initiation nor the pace of the testing is predetermined. Control of the testing is maintained by the individual test participant. Before beginning the formal evaluation of any function, test participants are encouraged to read the user manual and other available documentation produced by Sirsi and Lawrence Livermore National Laboratory on the use of the software packages.

Each test is initialized by logging-on to the prototype system. To perform the tests, a participant should first choose the function to be evaluated. Test participants are encouraged to read through each checklist completely before performing any evaluations. After choosing the function to be evaluated, the participants should evaluate the package for all the features on the checklist using the five-point scale shown in Section 3.2. As stated previously, while participants are required to

assign a numerical score for each feature, they are also encouraged to provide written comments whenever possible to assist in the overall evaluation.

The evaluation is complete when the participants have rated each feature for the functions within their responsibility. The completed checklists should be sent to the Logistics Management Institute, 6400 Goldsboro Road, Bethesda, Maryland 20817-5886, Attention: DL503 Project Leader.

APPENDIX A

TEST PLAN CHECKLIST: REFERENCE

This appendix contains the test plan checklist for the "Reference" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should also be mailed to that address.

TEST PLAN CHECKLIST: REFERENCE

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.	**Search Formulation**						
	a. System permits search expressions and formulation to be tested prior to full-scale use	____	____	____	____	____	
*	b. System supports a variety of search arguments:						
	• *search of multiple fields with* single keyword	____	____	____	____	____	
	• keywords derived from authority lists or controlled vocabularies contained in the system	____	____	____	____	____	
	• data aggregates (phrases)	____	____	____	____	____	
	• complete names, titles, etc.	____	____	____	____	____	
	c. System permits use of explicit logical (Boolean) operators:						
*	• AND	____	____	____	____	____	
*	• OR	____	____	____	____	____	
	• XOR	____	____	____	____	____	
*	• NOT	____	____	____	____	____	
	• Other _____	____	____	____	____	____	
*	d. System permits Boolean searches consistent with levels used by DROLS	____	____	____	____	____	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	e. System permits use of relational operators:						
	• less than	____	____	____	____	____	
	• greater than	____	____	____	____	____	
	• equal to	____	____	____	____	____	
	• less than or equal to	____	____	____	____	____	
	• greater than or equal to	____	____	____	____	____	
	• not equal to	____	____	____	____	____	
	f. System supports explicit truncation (use of special symbol inserted by user):						
	• infix	____	____	____	____	____	
	• prefix	____	____	____	____	____	
	• suffix	____	____	____	____	____	
	• combinations	____	____	____	____	____	
	• fixed number of characters	____	____	____	____	____	
	• variable number of characters	____	____	____	____	____	
	g. System supports use of search term qualifiers:						
	• form of publication	____	____	____	____	____	
	• medium of publication	____	____	____	____	____	
	• data element type	____	____	____	____	____	
	• data field type	____	____	____	____	____	
	• data base identifier	____	____	____	____	____	
	• other _____	____	____	____	____	____	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
h.	System permits user to limit search by:						
	• setting universe within which search will be performed and data retrieved (DTIC, local, or both)	___	___	___	___	___	
	• number of items to search	___	___	___	___	___	
	• most recent data base updates	___	___	___	___	___	
	• other _____	___	___	___	___	___	
i.	System employs a stop word list	___	___	___	___	___	
j.	System supports full range of:						
	• search commands	___	___	___	___	___	
	• search requests	___	___	___	___	___	
	• search responses	___	___	___	___	___	
k.	System provides workforms or templates for search expression formulation	___	___	___	___	___	
l.	System supports menu-driven searching using:						
	• fixed menu approach	___	___	___	___	___	
	• flexible menu approach	___	___	___	___	___	
	• user selection of menu level	___	___	___	___	___	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	m.	System supports searching of multiple data bases (running on the local machine) at one time	___	___	___	___	___	
	n.	Search expression input via:						
		• keyboard	___	___	___	___	___	
		• menu	___	___	___	___	___	
		• optical character reader	___	___	___	___	___	
2.		Retrieval						
*	a.	System supports many data base access points:						
		• titles	___	___	___	___	___	
		• personal authors	___	___	___	___	___	
		• corporate authors	___	___	___	___	___	
		• subject headings	___	___	___	___	___	
		• any field can be defined as retrievable	___	___	___	___	___	
*	b.	System retrieves records from multiple files with single search	___	___	___	___	___	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	c.	System provides a variety of retrieval controls:						
		• set/change defaults for display formats	____	____	____	____	____	
		• display search status at any time	____	____	____	____	____	
		• set print line length	____	____	____	____	____	
		• set page or screen size	____	____	____	____	____	
		• specify lifetime of saved search	____	____	____	____	____	
		• set format of output	____	____	____	____	____	
*	d.	System limits use of controls by authorization	____	____	____	____	____	
	e.	System supports browsing:						
		• in index files	____	____	____	____	____	
		• in retrieved data item list	____	____	____	____	____	
		• in thesaurus or authority list	____	____	____	____	____	
		• forward	____	____	____	____	____	
		• backward	____	____	____	____	____	
	f.	System supports retrieval from authority file or thesaurus for search expression formulation, etc.	____	____	____	____	____	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	g.	System permits retrieval to be limited by:						
		• universe	___	___	___	___	___	
		• qualifiers	___	___	___	___	___	
		• number of items (in succession or at intervals)	___	___	___	___	___	
*	h.	Null retrieval produces message	___	___	___	___	___	
	i.	Single-citation retrieval produces:						
		• abbreviated citation for initial retrieval	___	___	___	___	___	
		• brief citation on request	___	___	___	___	___	
*		• full citation on request	___	___	___	___	___	
	j.	Multiple-citation retrieval produces:						
*		• initial count of hits (responses)	___	___	___	___	___	
		• initial list of truncated citations	___	___	___	___	___	
		• subsequent list of expanded partial citations on request	___	___	___	___	___	
*		• full citation on request	___	___	___	___	___	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
3.	Display/Printed Output						
*	a. System displays messages:						
	• logon and logoff	___	___	___	___	___	
	• session initiation and termination	___	___	___	___	___	
	• error messages	___	___	___	___	___	
	• exceptional conditions	___	___	___	___	___	
	• information messages	___	___	___	___	___	
	• instructional/help messages	___	___	___	___	___	
*	b. System supports data displays of varying content:						
	• bibliographic data displays	___	___	___	___	___	
	• holdings and location data displays	___	___	___	___	___	
	• textual data displays	___	___	___	___	___	
	• search status displays	___	___	___	___	___	
	• adjacent term displays	___	___	___	___	___	
	• displays of index terms corresponding with truncated search term	___	___	___	___	___	
	• report displays	___	___	___	___	___	
	• browse mode displays						
	• delinquency data displays	___	___	___	___	___	
	• other _____	___	___	___	___	___	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
c.	System supports several forms of display:						
	• count of retrieved items	___	___	___	___	___	
	• abbreviated entry displays (with user-selected formats and content)	___	___	___	___	___	
	• full record displays	___	___	___	___	___	
d.	Data displayed in a meaningful form for each type of use	___	___	___	___	___	
* e.	System provides workforms or templates for data entry:						
	• search expression formulation	___	___	___	___	___	
	• gateways						
	• bibliographic workform or template	___	___	___	___	___	
	• report generation workform	___	___	___	___	___	
	• other _____	___	___	___	___	___	
f.	System supports various data representations in displays (e.g., coded data, abbreviations, etc.)	___	___	___	___	___	
g.	System provides a variety of display formats (e.g., list, paragraphed, tabular)	___	___	___	___	___	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	h.	System provides various orderings of records and data elements in displays (e.g., by title, name, subject, etc.)	____	____	____	____	____	
*	i.	System supports protected fields in displays	____	____	____	____	____	
*	j.	System supports workstation printers	____	____	____	____	____	
	4.	Disposition of Retrieved Data						
*	a.	System supports downloading of retrieved data	____	____	____	____	____	
*	b.	System permits retrieved data to be processed by user software (post-processing)	____	____	____	____	____	
	c.	System permits user specification of system device to be used for output	____	____	____	____	____	

APPENDIX B

TEST PLAN CHECKLIST: CATALOGING

This appendix contains the test plan checklist for the "Cataloging" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. *Make clear reference to the function and feature you are commenting on* by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should also be mailed to that address.

TEST PLAN CHECKLIST: CATALOGING

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.	Duplicate Checking						
	a. System provides workform or template (on the video display terminal screen) for entering a search of the data base to check for possible duplicate citations	____	____	____	____	____	
*	b. System performs specified search and retrieves and displays records which meet search criteria	____	____	____	____	____	
	c. System provides the user a choice of output formats for citations found during a duplicate check *search (abbreviated or full length* citations)	____	____	____	____	____	
2.	Data Entry						
*	a. System provides on-line updating of catalog	____	____	____	____	____	
*	b. System provides convenient workforms or templates for entry of bibliographic data during cataloging	____	____	____	____	____	
*	c. Data entry modes supported:						
	• on-line (user terminal)	____	____	____	____	____	
	• batch	____	____	____	____	____	

TEST PLAN CHECKLIST: CATALOGING (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	d.	Input devices supported:						
		• keyboard	____	____	____	____	____	
		• wand reader	____	____	____	____	____	
		• stationary reader	____	____	____	____	____	
*		• magnetic tape (reel or cassette)	____	____	____	____	____	
*		• disk	____	____	____	____	____	
		• diskette	____	____	____	____	____	
		• other _____	____	____	____	____	____	
*	e.	System produces helpful messages in response to user requests for assistance/help or in response to errors entered by the user	____	____	____	____	____	
*	f.	Transactions journalized to provide for back-up and recovery (system operator testing)	____	____	____	____	____	
3.		Data Editing and Modification						
	a.	During on-line cataloging, the system allows the user to edit and correct input data without reentering the entire record	____	____	____	____	____	
	b.	System allows for entry of bibliographic records in steps, with input being saved at each step for editing and augmentation at successive steps	____	____	____	____	____	

TEST PLAN CHECKLIST: CATALOGING (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	c.	System provides global search and replace	____	____	____	____	____	
	d.	System provides range search and replace	____	____	____	____	____	
*	e.	Once entered by the user, system performs error checking for:	____	____	____	____	____	
		• coded values	____	____	____	____	____	
		• required spacing and punctuation	____	____	____	____	____	
		• internal consistency of data	____	____	____	____	____	
		• presence of required data element values	____	____	____	____	____	
		• duplicate data	____	____	____	____	____	
4.		Data Update						
*	a.	System automatically restricts or controls user access for modifying or updating data base (catalog) contents	____	____	____	____	____	
	b.	System supports data base updating by:						
		• adding citations	____	____	____	____	____	
		• deleting citations	____	____	____	____	____	
		• replacing existing citations	____	____	____	____	____	
		• deleting or adding terms on authority lists corresponding to added or deleted citations	____	____	____	____	____	

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	c.	System supports on-line modification of data in individual records:						
		• add data	____	____	____	____	____	
		• change data	____	____	____	____	____	
		• delete data	____	____	____	____	____	
*	d.	System supports record update at data element level	____	____	____	____	____	
*	e.	System provides record locking during update (records being updated cannot be accessed by other users through retrieval applications)	____	____	____	____	____	
*	f.	System provides immediate access to all newly created records (once update is completed and records are released from any lock-out controls)	____	____	____	____	____	

APPENDIX C

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL

This appendix contains the test plan checklist for the "Circulation Management and Control" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

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TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1. Data Entry						
a. System provides workforms or templates for data entry:						
• patron record workform	____	____	____	____	____	
• routing data (for serials)	____	____	____	____	____	
• patron profile data	____	____	____	____	____	
2. Patron Identification						
a. System displays clearance level and need-to-know of patron						
b. System employs machine-readable patron identification numbers (PIN) to identify patron to system	____	____	____	____	____	
c. System uses preprinted PIN labels	____	____	____	____	____	
d. System uses special patron cards	____	____	____	____	____	
e. System supports other patron identification numbers:						
• TRADOC badge/employee number	____	____	____	____	____	
• Social Security number	____	____	____	____	____	

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
3	Item Identification						
	a. System employs machine-readable item identification numbers (IIN) to identify individual bibliographic items	____	____	____	____	____	
	b. IINs are usable in other library applications such as serials control and circulation control	____	____	____	____	____	
	c. System uses preprinted or prepared IIN labels	____	____	____	____	____	
*	d. System supports other item identification numbers:						
	• local system number	____	____	____	____	____	
	• AD number	____	____	____	____	____	
4.	Holding Charge-Out						
	a. System permits charging of items to patrons	____	____	____	____	____	
	b. System requires PIN input before charge	____	____	____	____	____	
	c. System permits multiple items to be charged with single PIN entry	____	____	____	____	____	

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
d.	System permits PIN and IIN to be entered quickly and accurately by:						
	• wand reader	____	____	____	____	____	
	• stationary laser scanner	____	____	____	____	____	
	• keyboard	____	____	____	____	____	
	• other device _____	____	____	____	____	____	
e.	System indicates erroneous identification number readings to the operator	____	____	____	____	____	
f.	Charge of item not previously discharged causes automatic discharge from previous patron	____	____	____	____	____	
g.	System supports numerous patron types	____	____	____	____	____	
h.	System supports numerous material types	____	____	____	____	____	
i.	Loan periods selected by library staff at time of check-out	____	____	____	____	____	
j.	System supports printing of date-due slips at workstation:						
	• routinely	____	____	____	____	____	
	• on demand	____	____	____	____	____	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	k. System supports printing of classified document receipts at workstation:						
	• routinely	___	___	___	___	___	
	• on demand	___	___	___	___	___	
	l. System supports charge via portable terminal	___	___	___	___	___	
	m. System automatically notifies user that patron being charged with item has other delinquencies	___	___	___	___	___	
	n. System requires password (or equivalent) for overrides	___	___	___	___	___	
	o. System permits all types of material to be charged, including serial issues, equipment, facilities, etc.	___	___	___	___	___	
5.	Discharge						
	a. System permits discharge of items returned by patron	___	___	___	___	___	
	b. Discharge is fast and error free	___	___	___	___	___	
	c. System signals unsuccessful discharge to operator	___	___	___	___	___	

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
d. System produces discharge receipts:						
• routinely	____	____	____	____	____	
• on demand	____	____	____	____	____	
e. System permits suitably authorized staff to backdate a discharge	____	____	____	____	____	
f. System automatically produces transit slip when item must be sent to another location	____	____	____	____	____	
g. System identifies items not charged	____	____	____	____	____	
6. Controlled Circulation						
a. System supports controlled circulation of items to patrons	____	____	____	____	____	
b. System permits creation and maintenance of patron interest profiles	____	____	____	____	____	
c. System maintains routing list for each item included in controlled circulation:	____	____	____	____	____	
• by person	____	____	____	____	____	
• by department or other organizational unit	____	____	____	____	____	
• by other designation _____	____	____	____	____	____	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
d.	System provides manual override of automatic routing	___	___	___	___	___	
e.	System maintains routing list:						
	• on-line	___	___	___	___	___	
	• batch mode	___	___	___	___	___	
f.	Library staff must indicate to system which items should be routed to each patron	___	___	___	___	___	
7.	Renewal						
a.	System supports renewal of charged items	___	___	___	___	___	
b.	Renewal function is controlled by patron and material types	___	___	___	___	___	
c.	Loan periods governed by:						
	• system tables	___	___	___	___	___	
	• material type	___	___	___	___	___	
	• patron type	___	___	___	___	___	
d.	System permits renewal of item without item or patron present	___	___	___	___	___	
e.	Telephone renewal requires both PIN and IIN	___	___	___	___	___	

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
f. System limits successive renewals:						
• by item	___	___	___	___	___	
• by patron	___	___	___	___	___	
g. System prevents renewal if recall for item is outstanding	___	___	___	___	___	
h. System resolves hold/renewal *conflicts*	___	___	___	___	___	
8. Holds						
a. System permits placing of holds on items	___	___	___	___	___	
b. System governs placement of holds						
• patron type	___	___	___	___	___	
• material type	___	___	___	___	___	
• number of holds already outstanding on an item	___	___	___	___	___	
• patron delinquencies	___	___	___	___	___	
c. System permits holds to be placed at title-specific level	___	___	___	___	___	
d. System limits:						
• number of holds per title	___	___	___	___	___	
• number of holds per patron	___	___	___	___	___	

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
e. System supports:						
• hold activation date	___	___	___	___	___	
• hold cancellation date	___	___	___	___	___	
f. System produces hold listings:						
• in printed form	___	___	___	___	___	
• on-line	___	___	___	___	___	
9. Recalls						
a. System permits recall of items on request	___	___	___	___	___	
b. Requests are governed by:						
• patron type	___	___	___	___	___	
• material type	___	___	___	___	___	
• item status	___	___	___	___	___	
• type of requestor	___	___	___	___	___	
• reason for recall	___	___	___	___	___	
• other conditions _____	___	___	___	___	___	
• combination of other factors	___	___	___	___	___	
c. Recalls require both PIN and IIN	___	___	___	___	___	
d. System produces recall notices	___	___	___	___	___	
e. System places block on patron who has not returned recalled item	___	___	___	___	___	

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
f. System supports:						
• recall after specified date	___	___	___	___	___	
• recall cancellation date	___	___	___	___	___	
g. System limits number of recall requests per patron	___	___	___	___	___	
h. System produces recall list:						
• in printed form	___	___	___	___	___	
• on-line	___	___	___	___	___	
10. Overdues						
a. System permits detection and notification of overdue holdings	___	___	___	___	___	
b. System automatically determines overdue date based on:						
• charge date	___	___	___	___	___	
• loan period	___	___	___	___	___	
• grace period	___	___	___	___	___	
• non-chargeable days (e.g., holidays)	___	___	___	___	___	
c. System blocks additional charges for patron with overdue materials	___	___	___	___	___	
d. System permits override of block by authorized staff member	___	___	___	___	___	

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

	FUNCTION/FEATURE	SCORE					COMMENTS
		1	2	3	4	5	
e.	System provides for overdue threshold (beyond which patron may not charge additional items)	____	____	____	____	____	
f.	System produces overdue notices	____	____	____	____	____	
g.	System records overdues on delinquency report	____	____	____	____	____	
h.	System records overrides in audit trail	____	____	____	____	____	
11.	Reserve Collection Management						
a.	System permits library to establish and maintain a reserve collection	____	____	____	____	____	
b.	System treats reserve collection as a pseudo-patron to which items may be charged for defined time periods	____	____	____	____	____	
c.	System supports inclusion of uncataloged material in reserve collection	____	____	____	____	____	
d.	System supports all functions and features of circulation under reserve collection management	____	____	____	____	____	
e.	System provides for loan periods established by library (1 hour, 3 hours, 1 day, etc.)	____	____	____	____	____	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
f.	System supports special patron classes	___	___	___	___	___	
g.	System recognizes materials belonging in the reserve collection wherever they are discharged	___	___	___	___	___	
h.	System records statistics for reserve collection activity separately from those for regular collection	___	___	___	___	___	
12.	Interlibrary Loan						
a.	System supports dual-level functions and features of circulation (e.g., charge to library and charge to patron)	___	___	___	___	___	
b.	System permits separate loan periods and other parameters in interlibrary loan	___	___	___	___	___	
c.	System provides all circulation functions and features in interlibrary loan	___	___	___	___	___	
d.	System permits discharge of item at lending library without discharge at borrowing library	___	___	___	___	___	

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
13. Materials Booking						
a. System permits booking of:						
• films	___	___	___	___	___	
• audiovisual materials	___	___	___	___	___	
• other materials _____	___	___	___	___	___	
• meeting rooms	___	___	___	___	___	
b. System supports special:						
• *material types*	___	___	___	___	___	
• patron classes	___	___	___	___	___	
• loan periods	___	___	___	___	___	
• fine amounts (and other charges)	___	___	___	___	___	
c. System supports materials, equipment, and facilities inventory	___	___	___	___	___	
d. System supports:						
• charge	___	___	___	___	___	
• discharge	___	___	___	___	___	
• renewal	___	___	___	___	___	
• holds	___	___	___	___	___	

APPENDIX D

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT

This appendix contains the test plan checklist for "Reports and Other Printed Output" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

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TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.	Reports						
*	a. System supports on-line report preparation and generation:						
	• on-demand	___	___	___	___	___	
	• preprogrammed						
	b. System supports batch report preparation and generation:						
	• on-demand	___	___	___	___	___	
	• preprogrammed	___	___	___	___	___	
	c. System produces *activity reports* (preprogrammed):						
	• activity summary	___	___	___	___	___	
	• services used	___	___	___	___	___	
	• financial report	___	___	___	___	___	
	• holds placed	___	___	___	___	___	
	• user-file status report	___	___	___	___	___	
	• audit trail summary	___	___	___	___	___	
	• other _____						

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	d. System produces activity reports (on-demand):						
	• patron activity	____	____	____	____	____	
	• items retrieved	____	____	____	____	____	
	• items not found (null response to search)	____	____	____	____	____	
	• charges journal	____	____	____	____	____	
	• private files (status, age, etc.)	____	____	____	____	____	
	• other _____	____	____	____	____	____	
	e. System produces exception reports on:						
	• lengthy retrieval output	____	____	____	____	____	
	• audit trail exceptions	____	____	____	____	____	
	• other _____	____	____	____	____	____	

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
f.	System produces activity data reports on:						
	• searches (by type)	____	____	____	____	____	
	• patron activity report	____	____	____	____	____	
	• retrieval activity report	____	____	____	____	____	
	• holds list	____	____	____	____	____	
	• private file limits expiration	____	____	____	____	____	
	• saved search formulation time limits expired	____	____	____	____	____	
	• patron use statistics by patron type and function	____	____	____	____	____	
	• terminal statistics by time records	____	____	____	____	____	
g.	System produces data-base statistics on:						
*	• number of patron records	____	____	____	____	____	
	• record length (mean, standard deviation, extremes)	____	____	____	____	____	
	• number of access points per data record, by file type	____	____	____	____	____	
	• number of index entries by type	____	____	____	____	____	
	• number of bibliographic, item, patron, or other	____	____	____	____	____	
	• records per index entry by entry type (mean, standard deviation, extremes)	____	____	____	____	____	
	• data base activity volumes	____	____	____	____	____	
*	• data transfers from LAM to DTIC and vice versa	____	____	____	____	____	

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
h. System produces performance data on:						
• active terminals per time period	____	____	____	____	____	
• response time (mean, maximum, minimum) for each type of basic function (e.g., charge, discharge)	____	____	____	____	____	
• data base accesses	____	____	____	____	____	
• other _____						
2. Report Generator						
a. System provides a wide range of choices of report formatting options:						
• tabular as well as text presentation	____	____	____	____	____	
• column justification	____	____	____	____	____	
• column widths	____	____	____	____	____	
• number of lines per page	____	____	____	____	____	
• number of significant digits	____	____	____	____	____	
• paragraph indentation	____	____	____	____	____	
• page headers and footers	____	____	____	____	____	
• footnotes	____	____	____	____	____	
• underscoring	____	____	____	____	____	
• overstriking	____	____	____	____	____	

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	b.	System has sorting capability (at least three nested levels)	____	____	____	____	____	
*	c.	System report generator allows for specification of the data content of a report, including:						
		• choice of titles	____	____	____	____	____	
		• choice of column headings	____	____	____	____	____	
		• choice of data elements	____	____	____	____	____	
		• choice of row labels	____	____	____	____	____	
		• content of headers and footers	____	____	____	____	____	
		• automatic or forced pagination	____	____	____	____	____	
	d.	System provides a wide variety of data manipulation capabilities for system statistical activity reports:						
		• choice of mathematical and statistical operations						
		- maxima	____	____	____	____	____	
		- minima	____	____	____	____	____	
		• hyphenation	____	____	____	____	____	
		• margin justification	____	____	____	____	____	

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	e.	System supports flexible output modes:						
		• graphics output (high and low resolution)	____	____	____	____	____	
*		• printed output	____	____	____	____	____	
		• video output	____	____	____	____	____	
*		• machine-readable output (e.g., magnetic tape for comprinter)	____	____	____	____	____	
*	f.	System gives user the option of saving report generation specifications for future use	____	____	____	____	____	
	g.	System enables user to save report for future use (microfiche)	____	____	____	____	____	
3.		Support Facilities						
*	a.	System permits user to save search expressions	____	____	____	____	____	
*	b.	System permits user to retrieve and execute saved search expressions	____	____	____	____	____	
*	c.	System permits saving of report generation specifications	____	____	____	____	____	
*	d.	System permits retrieval and execution of report generation specifications	____	____	____	____	____	

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
4.	**Receipts**						
	a. System supports production of receipts and other brief printed output:						
*	• at workstation printer	____	____	____	____	____	
	• at shared printer	____	____	____	____	____	
	- sums	____	____	____	____	____	
	- differences	____	____	____	____	____	
	- means	____	____	____	____	____	
	• in batch mode	____	____	____	____	____	
	b. System records production of receipts	____	____	____	____	____	
	c. System controls receipt production by function:						
*	• on-demand receipts	____	____	____	____	____	
	• routine production	____	____	____	____	____	
	• no receipts	____	____	____	____	____	
	d. System permits operator to change receipt production control on an as-needed basis	____	____	____	____	____	

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	e. Receipts are identified as to type:						
	• type (e.g., data base use, private file use)	____	____	____	____	____	
	• library	____	____	____	____	____	
	• date and time	____	____	____	____	____	
	• patron identification number	____	____	____	____	____	
	• security classification	____	____	____	____	____	
	• log number	____	____	____	____	____	
	5. Printed Output						
	a. System supports printing at workstations of:						
	• bibliographies	____	____	____	____	____	
	• user/system dialogs	____	____	____	____	____	
	• indexes	____	____	____	____	____	
	• abstracts (from DTIC)	____	____	____	____	____	
	• tables (of data)	____	____	____	____	____	
	• special reports	____	____	____	____	____	
	• various data displays for off-line use, checking and/or verification	____	____	____	____	____	
	• notices, on demand	____	____	____	____	____	
	• hold slips	____	____	____	____	____	
	• receipts (charges) for classified documents	____	____	____	____	____	
	• transit notices (picking slips)	____	____	____	____	____	
	• other _____	____	____	____	____	____	

APPENDIX E

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL

This appendix contains the test plan checklist for "Security and Access Control" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

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TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.		Audit Trail						
*	a.	System maintains audit trail for all transactions that affect integrity of the data base	____	____	____	____	____	
*	b.	System maintains audit trail for all transactions that relate to access to data base	____	____	____	____	____	
*	c.	System maintains audit trail for all software maintenance	____	____	____	____	____	
*	d.	System maintains audit trail for all financial transactions (e.g., acquisition, budgeting, and ordering)	____	____	____	____	____	
*	e.	System supports on-line, read-only access to audit trail data given suitable access control level	____	____	____	____	____	
*	f.	Audit trail maintained in machine-readable form	____	____	____	____	____	
*	g	Audit trail not alterable	____	____	____	____	____	

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	h. System tracks:						
*	• use of internal data base	____	____	____	____	____	
*	• use of external data base	____	____	____	____	____	
	• use of search and retrieval features	____	____	____	____	____	
	• use of output facilities	____	____	____	____	____	
	• routing	____	____	____	____	____	
*	• data entry and update	____	____	____	____	____	
	i. System provides audit trail records that identify:						
*	• person effecting transaction	____	____	____	____	____	
*	• function/feature performed or attempted	____	____	____	____	____	
*	• date and time of access attempt	____	____	____	____	____	
	• transaction data	____	____	____	____	____	
	• terminal used	____	____	____	____	____	
	• telecommunication line used	____	____	____	____	____	
	• library	____	____	____	____	____	
	• library unit	____	____	____	____	____	
	• data base or program accessed	____	____	____	____	____	
	j. System supports production of a variety of reports based on audit trail data	____	____	____	____	____	

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

	FUNCTION/FEATURE	SCORE					COMMENTS
		1	2	3	4	5	
3.	Access Control						
* a.	System prevents unauthorized access to any system function, feature, or data	____	____	____	____	____	
* b.	System prevents unauthorized changes or deletions of data	____	____	____	____	____	
* c.	System prevents unauthorized downloading or transfer of data	____	____	____	____	____	
* d.	System differentiates between levels of users	____	____	____	____	____	
e.	System distinguishes system operators from staff users	____	____	____	____	____	

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	f.	System achieves access control by:						
		• system-assigned user identification	____	____	____	____	____	
		• system-assigned password	____	____	____	____	____	
		• user-assigned password	____	____	____	____	____	
*		• combination of system-assigned identification number and user-assigned password	____	____	____	____	____	
		• function-level identification number or password	____	____	____	____	____	
		• terminal level control						
		- by group	____	____	____	____	____	
		- by terminal	____	____	____	____	____	
		- by time of day	____	____	____	____	____	
		• task/activity level	____	____	____	____	____	
		• transaction level	____	____	____	____	____	
	g.	System does not display access codes	____	____	____	____	____	
*	h.	System ensures data base integrity	____	____	____	____	____	
*	i.	System maintains audit trail of all access attempts (successful and unsuccessful)	____	____	____	____	____	

APPENDIX F

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY

This appendix contains the test plan checklist covering "Reliability and Maintainability" aspects of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

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TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.	Resilience Under Load						
	a. System capable of controlling volume of incoming traffic by:						
	• applying backpressure on terminal users	____	____	____	____	____	
	• priority of messages	____	____	____	____	____	
	• deactivating communication ports	____	____	____	____	____	
	b. System performance degrades slowly with increased load	____	____	____	____	____	
	c. System recovers quickly as load diminishes	____	____	____	____	____	
	d. Crash recovery is no more difficult during periods of peak loading than at other times	____	____	____	____	____	
2.	System Reliability						
	a. System available 95 percent of scheduled time	____	____	____	____	____	
*	b. System available 97 percent of scheduled time	____	____	____	____	____	
	c. System available 99 percent of scheduled time	____	____	____	____	____	

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	d. System vendor provides contractual assurance of up-time	____	____	____	____	____	
	e. Weakest component/link:						
	• processing (transactions)	____					Rather than apply the
	• data base management system	____					normal scoring to these
	• telecommunications	____					features, simply rank
	• peripherals	____					order the components
	• insulation from power losses	____					from weakest (score-1)
	• insulation from central system failure	____					to strongest (score-5).
	• back-up/recovery	____					The same score may be
	• vendor/maintenance	____					applied to more than
	• documentation	____					*one component*.
	• availability of source code	____					
	3. System Capacity						
*	a. System can be conveniently sized for a given installation						
	• data base capacity	____	____	____	____	____	
	• number of terminals	____	____	____	____	____	
	• memory size	____	____	____	____	____	
	• number of communication ports	____	____	____	____	____	
	• processor capacity (transactions per second)	____	____	____	____	____	

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	b. System can be shared by two or more functional units:						
	• with common policies	____	____	____	____	____	
	• with distinct policies	____	____	____	____	____	
	c. System can be readily expanded to accommodate:						
*	• increased record size	____	____	____	____	____	
*	• increased data base size	____	____	____	____	____	
	• increased transaction load	____	____	____	____	____	
*	• increased number of terminals	____	____	____	____	____	
	• additional peripherals (e.g., printers)	____	____	____	____	____	
	• increased telecommunications traffic	____	____	____	____	____	
	• new data elements	____	____	____	____	____	
	4. Maintenance						
*	a. System provides for easy data-base maintenance	____	____	____	____	____	
*	b. System allows maintenance of index records	____	____	____	____	____	

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
	c.	System provides for data file maintenance:						
		• at the record level	____	____	____	____	____	
		• at the field level	____	____	____	____	____	
*		• at the data element level	____	____	____	____	____	
		• at the character level	____	____	____	____	____	
*		• on-line	____	____	____	____	____	
		• batch mode	____	____	____	____	____	
*	d.	System vendor provides software maintenance:						
		• via on-line remote terminal	____	____	____	____	____	
		• onsite	____	____	____	____	____	
*	*e.*	*System vendor* provides software enhancements on regular basis	____	____	____	____	____	
*	f.	System vendor provides continuing improvements and enhancements	____	____	____	____	____	
*	g.	Software enhancements easily installed	____	____	____	____	____	
*	h.	System vendor provides consistent, scheduled, routine hardware maintenance	____	____	____	____	____	
*	i.	System vendor performs emergency maintenance service promptly	____	____	____	____	____	

APPENDIX G

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION

This appendix contains the test plan checklist for assessing the "Ease of Use and Modification" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
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Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

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TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.		*Help*						
	a.	System supports on-line assistance for users	___	___	___	___	___	
*	b.	System permits user to set level of "help" desired	___	___	___	___	___	
	c.	System provides informative messages in response to correctly executed transactions (may include audible tone)	___	___	___	___	___	
*	d.	System provides comprehensive set of easily understood error messages when an error is made	___	___	___	___	___	
	e.	System provides comprehensive set of instructional messages to facilitate its use	___	___	___	___	___	
	f.	Instructional messages accessible at point of need, without interruption of work in progress	___	___	___	___	___	
	g.	Instructional messages or tracts on commands, requests, functions, errors, etc., available through use of "help" or similar command	___	___	___	___	___	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
2.	**Documentation**						
	a. System provides quick reference guide	____	____	____	____	____	
	b. System provides user (functional) documentation for library staff	____	____	____	____	____	
	c. System documentation well indexed	____	____	____	____	____	
	d. System documentation includes ample illustrations and samples	____	____	____	____	____	
	e. System provides documentation on:						
*	• system (application)	____	____	____	____	____	
	• application environment	____	____	____	____	____	
*	• data base	____	____	____	____	____	
*	• data element dictionary	____	____	____	____	____	
*	• error messages and meanings	____	____	____	____	____	
*	f. System provides operator documentation for:						
	• system installation	____	____	____	____	____	
	• system start-up	____	____	____	____	____	
	• data base creation	____	____	____	____	____	
	• data base back-up	____	____	____	____	____	
	• system shut-down	____	____	____	____	____	
	• batch operation	____	____	____	____	____	
	• recovery/restart	____	____	____	____	____	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

		FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	g.	System provides troubleshooting documentation	____	____	____	____	____	
	h.	System provides technical documentation on:						
		• overview	____	____	____	____	____	
		• operating system	____	____	____	____	____	
		• programming language	____	____	____	____	____	
		• telecommunication	____	____	____	____	____	
		• support software	____	____	____	____	____	
		• back-up, recovery, and data verification software	____	____	____	____	____	
*	i.	Documentation kept current by system vendor	____	____	____	____	____	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
3. Defaults						
a. System supports default:						
• value for function selected (e.g., reference)	____	____	____	____	____	
• file to access (e.g., on-line catalog)	____	____	____	____	____	
• access control level (e.g., search only)	____	____	____	____	____	
• display format	____	____	____	____	____	
• values for various data elements in data entry, update, and conversion	____	____	____	____	____	
• number of overrides permitted per staff member per unit of time	____	____	____	____	____	
• limits on number of items retrieved at one time	____	____	____	____	____	
• limits on number of saved search expressions	____	____	____	____	____	
• other _____	____	____	____	____	____	
b. System permits data carry-over from record to record for repetitive data entry	____	____	____	____	____	
c. Default values accessible on-line for inspection and modification by staff	____	____	____	____	____	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
4. Overrides						
a. System supports override of automatic features:						
• automatic blocks	___	___	___	___	___	
• automatic routing (between locations)	___	___	___	___	___	
• material-type restrictions	___	___	___	___	___	
• patron-class restrictions	___	___	___	___	___	
• other _____	___	___	___	___	___	
b. System permits overrides of various delinquencies	___	___	___	___	___	
c. System supports overrides of hold queue placement	___	___	___	___	___	
d. System supports override of defaults or system table values	___	___	___	___	___	
e. System controls overrides by level-of-access control via audit trail	___	___	___	___	___	
f. System monitors and reports all override activity	___	___	___	___	___	
5. Date and Time						
a. System requires manual entry of date and time daily	___	___	___	___	___	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
*	b. System maintains correct date and time continuously	____	____	____	____	____	
*	c. System supports perpetual calendar	____	____	____	____	____	
	d. System accommodates:						
	• library's hour of opening	____	____	____	____	____	
	• holidays	____	____	____	____	____	
	• proper control of date- and time-related functions	____	____	____	____	____	
	6. General						
	a. System is basically command-driven:						
	• user must know commands to be used in each particular situation	____	____	____	____	____	
	• user prompted for command as circumstances dictate	____	____	____	____	____	
	b. System is largely menu-driven:						
	• menus displayed automatically as needed	____	____	____	____	____	
	• menus must be requested by user	____	____	____	____	____	
	• system prompts user action in particular cases	____	____	____	____	____	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

		FUNCTION/FEATURE	SCORE					COMMENTS
			1	2	3	4	5	
*	c.	Interaction with system requires log-on	____	____	____	____	____	
*	d.	Interaction with system requires user identification (session initiation) and password	____	____	____	____	____	
	e.	Log-on is simple and unambiguous	____	____	____	____	____	
	f.	System log-off is straightforward	____	____	____	____	____	
	g.	Sessions terminated by patron or by system (time-out)	____	____	____	____	____	
	h.	System automatically logs off terminal user when default time period has elapsed with no user activity	____	____	____	____	____	
	i.	System requires user to identify needed function only when entry or modification of data is intended	____	____	____	____	____	
	j.	Moving from function to function is:						
		• controlled by function keys on terminal	____	____	____	____	____	
		• controlled by function codes displayed on terminal screen	____	____	____	____	____	
		• controlled by user keyboard input	____	____	____	____	____	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

		FUNCTION/FEATURE	SCORE					COMMENTS
			1	2	3	4	5	
	k.	User/system dialog is well-defined, logical, easy-to-use	____	____	____	____	____	
*	l.	System collects statistics on all facets of system operation and use to support report production and library management	____	____	____	____	____	

APPENDIX H

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES

This appendix contains the test plan checklist for evaluating the "Hardware and Software" features offered by the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

1 – No, the package does not offer the feature
2 – Yes, the package offers the feature but with severe limitations
3 – Yes, the package offers the feature with moderate limitations
4 – Yes, the package offers the feature with minor limitations
5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES

	FUNCTION/FEATURE	SCORE 1	2	3	4	5	COMMENTS
1.	**Software Portability**						
*	a. Software easily accommodates varied library policies and practices (catalog configuration)	____	____	____	____	____	
*	b. Software usable on different computers:						
	• different models manufactured by the same vendor	____	____	____	____	____	
	• systems manufactured by different vendors	____	____	____	____	____	
	c. Software upward-compatible on different models of same computer	____	____	____	____	____	
*	d. System accommodates multiple data bases	____	____	____	____	____	
*	e. Software accommodates various data file sizes:						
	• fewer than 100,000 characters	____	____	____	____	____	
	• 100,000 to 5 million characters	____	____	____	____	____	
	• 5 million to 50 million characters	____	____	____	____	____	
	• 50 million to 500 million characters	____	____	____	____	____	
	• more than 500 million characters	____	____	____	____	____	

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES (CONTINUED)

	FUNCTION/FEATURE	SCORE					COMMENTS
		1	2	3	4	5	
2.	System Characteristics						
	a. System supports multiple users (simultaneously)	___	___	___	___	___	
	b. System supports intelligent terminals	___	___	___	___	___	
*	c. System supports workstation printers	___	___	___	___	___	
3.	Work Tracking						
*	a. System logs users' transactions for each session	___	___	___	___	___	
*	b. System identifies session by input of user identification number	___	___	___	___	___	

END

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